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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,665	09/12/2003	Koji Hori	2635-177	7552

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EXAMINER

BENSON, WALTER

ART UNIT PAPER NUMBER

2858

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,665

Applicant(s)

HORI, KOJI

Examiner

Walter Benson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/12/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. Claims 1-7 are presented for examination.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Information Disclosure Statement

3. The information disclosure statement filed 9/12/03 (document 2550790) fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Whaley (US Patent No. 2,913,659 and Whaley hereinafter).

6. As to claim 1, Whaley discloses a method of inspecting an insulator to detect defects, the insulator having an aperture formed therein, the method comprising:

placing the insulator inside a pressure-proof chamber, with a first electrode disposed within the aperture of the insulator and with a second electrode disposed at the exterior of the insulator (10,12,18, Figure; col. 1, lines 50-57 and 65-67)

filling the pressure-proof chamber with air under a pressure which is higher than atmospheric pressure (col. 1, lines 67-71)

establishing a potential difference between the first electrode and second electrode, and measuring a level of leakage current which flows between the first and second electrodes (col. 2, lines 76-72 and col. 3, lines 1-11)

judging whether the leakage current exceeds a predetermined value, thereby judge whether or not the insulator is defective (col. 3, lines 11-21).

7. Claims 2 and 3 are rejected under 35 U.S.C. 102(a) as being anticipated by Kravis (US Patent No. 6,426, 626 and Kravis hereinafter).

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8. As to claims 2 and 3, Kravis discloses a method of insulator defect inspection applied to an insulator, the insulator having an aperture formed therein, the method comprising:

disposing a first electrode within the aperture of the insulator with the insulator inserted into a cavity formed in a second electrode, the second formed of metal plate (i.e. peripherally) (28,30,36,38, Fig. 1; col. 3, lines 30-37 and 40-43)

electrode being establishing a potential difference between the first and second electrodes and measuring a level of leakage current which flows between the first and second electrodes (14, Fig. 2; col. 4, lines 5-10 and 15-28);

judging whether there is a defect in the insulator, based upon whether or not the level of leakage current exceeds a predetermined value (col. 5, lines 21-32).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whaley in view of Kravis.

Although the system disclosed by Whaley shows substantial features of the claimed invention (discussed in the paragraphs above), it fails to disclose:

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judged that there a defect in at least one of the plurality of insulators when the leakage current exceeds the predetermined value.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Whaley, as evidenced by Kravis.

In an analogous art, Kravis discloses a system for testing spark plugs having:

judged that there a defect in at least one of the plurality of insulators when the leakage current exceeds the predetermined value (col. 6, lines 51-57).

Given the teaching of Kravis, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Whaley by employing the well known or conventional features of spark plug testing, such as disclosed by Kravis in order to efficiently evaluate multiple spark plugs during each cycle.

Allowable Subject Matter

11. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record fails to teach in combination a method of insulator defect inspection where the pressure-proof chamber is filled with dry air under the high pressure, having a dew point, which is lower than a predetermined value.

12. Claim 5 is allowed. The prior art of record fails to teach in combination a method of insulator defect inspection where judging that there is a detect in at least one of the plurality of

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insulators, when the leakage current exceeds first predetermined value. When is found that there is a defect, performing an individual unit sorting inspection of each of the plurality insulators by disposing a first electrode in the aperture of each insulator, with a second electrode disposed to enclose a periphery of each insulator. Establishing a potential difference between the first electrode and second electrode and measuring a level of leakage current, which flows between the first and second electrodes. Judging that there defect in each insulator that the level of leakage current exceeds a second predetermined value.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Benson whose telephone number is (571) 272-2227. The examiner can normally be reached on Mon to Fri 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Walter Benson
Patent Examiner

November 6, 2004